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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,170	05/25/2001	Tetsuo Mise	103213-00027	2212

7590

10/01/2003

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EXAMINER

HSIA, SHERRIE Y

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 10/01/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/864,170

Applicant(s)

MISE ET AL.

Examiner

Sherrie Hsia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. This application is in condition for allowance except for the following formal matters:

Drawings

a. Figures 6-8G should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

b. The drawings are objected to because Figure 8D is missing in the drawings. It seems that "FIG. 8E" should be --FIG. 8D--, "FIG. 8F" should be --FIG. 8E--, "FIG. 8G" should be --FIG. 8F-- and "FIG. 8H" should be --FIG. 8G--. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

c. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Prosecution on the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.

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A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

2. The following is a statement of reasons for the indication of allowable subject matter:

The prior art fails to show or fairly suggest a color separator circuit for performing color separation on image signals fed thereto from a solid-state image-sensing device having pixels provided with a plurality of types of color filters, having the combinations as claimed, including a contour detector for detecting a contour of a subject sensed by the solid-state image-sensing device by recognizing variations in signals levels of the image signals fed from the solid-state image-sensing device; a first color separation filter for correcting the image signals fed from the solid-state image-sensing device by correcting each image signal based on a plurality of preceding and succeeding image signals; a second color separation filter for correcting the image signals fed from the solid-state image-sensing device by correcting each image signal based on a plurality of preceding and succeeding image signals; and a selector for selecting the second color separation filter when correcting image signals that represent a portion of an image that corresponds to the contour detected by the contour detector and selecting the first color separation filter when correcting image signals that represent a portion of the image other than the portion corresponding to the contour, wherein the first color separation filter uses a smaller number of image signals to correct an image signal than the second color separation filter, as recited in claims 1 and 8.

The prior art fails to show or fairly suggest a color separator circuit for performing color separation on image signals fed thereto from a solid-state image-sensing device having pixels

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provided with different types of color filters that are arranged in a recurrent pattern in a vertical direction, having the combinations as claimed, including a luminance signal generator, a first color separation signal generator for producing, for each of the image signals fed thereto from the solid-state image-sensing device, a first color separation signal according to the type of the color filter provided for a target pixel that is currently yielding the image signal; and a second color separation signal generator for producing, from the image signals fed thereto from the target pixel and from a pixel vertically adjacent thereto, a second color separation signal for the target pixel according to the type of color filter provided for the vertically adjacent pixel based on relationship between signal levels of luminance signals generated for the target pixel and for the vertically adjacent pixel by the luminance signal generator, as recited in claims 2 and 9.

The prior art fails to show or fairly suggest a color separator circuit for performing color separation on image signals fed thereto from a solid-state image-sensing device having pixels provided with two different types of color filters that are arranged alternately in a horizontal direction, having the combinations as claimed, including a contour detector, a first small-tap-number color separation filter, a second small-tap-number color separation filter, a first large-tap-number color separation filter, a second large-tap-number color separation filter, a selector for selecting, as first and second signals, signals output from the first and second large-tap-number color separation filters when correcting image signals that represent a portion of an image that corresponds to the contour detected by the contour detector and signals output from the first and second small-tap-number color separation filters when correcting image signals that represent a portion of the image other than the portion corresponding to the contour, an adder for adding together the first and second signals output from the selector to output luminance signals,

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and a subtractor for calculating a difference between the first and second signals output from the selector to output color separation signals, wherein the first and second small-tap-number color separation filters, the first and second large-tap-number color separation filters, the selector, the adder, and the subtractor constitute a horizontal-direction false coloring suppressor that alleviates false coloring in a horizontal direction, as recited in claims 4 and 11.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherrie Hsia whose telephone number is (703) 305-4738.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795.

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


Sherrie Hsia
Primary Examiner
Art Unit 2614

SH
September 29, 2003